

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-4. (cancelled)

5. (original) A method for controlling the number of cylinder valves in at least a cylinder operating in a internal combustion engine, the method comprising:

operating at least a cylinder with a first number of valves in a cycle of said cylinder, during at least a first operating condition of a catalyst; and

operating said cylinder with a second number of valves in a cycle of said cylinder, during a second catalyst operating condition, said second catalyst operating condition different from said first catalyst operating condition.

6. (original) The method of Claim 5 wherein said operating state of said catalyst brick is a oxidant storage capacity.

7. (original) The method of Claim 5 wherein said operating state of said catalyst is an amount of oxidants stored by said catalyst brick.

8. (original) The method of Claim 5 wherein said catalyst state is temperature of said catalyst brick.

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9. (original) A method for controlling the valve pattern in at least a cylinder operating in a internal combustion engine, the method comprising:

operating at least a cylinder with a first valve pattern in a cycle of said cylinder, during at least a first operating condition of a catalyst; and

operating said cylinder with a second valve pattern in a cycle of said cylinder, during a second catalyst operating condition, said second catalyst operating condition different from said first catalyst operating condition.

10. (original) The method of Claim 9 wherein said operating state of said catalyst brick is a oxidant storage capacity.

11. (original) The method of Claim 9 wherein said operating state of said catalyst is an amount of oxidants stored by said catalyst brick.

12. (original) The method of Claim 9 wherein said catalyst state is temperature of said catalyst brick.

13-32. (cancelled)

33. (original) A method for determining the number of cylinder strokes and valve pattern in a cycle of a cylinder of an internal combustion engine, the method comprising:

determining an operating condition of at least one catalyst brick located in an exhaust system of said internal combustion engine;

selecting a number of cylinders in which to delay a valve opening after a combustion event in respective cylinders, based on said catalyst brick operating condition;

determining a valve pattern to operate in said selected cylinders, based on said catalyst brick operating condition; and

operating said number of valves in said selected cylinders during a cycle of said internal combustion engine.